GEOGRAPHIC NEWS BULLETINS

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A FINBACK WHALE COMES UP TO INVESTIGATE

The only living things Rear-Admiral Byrd found on the Antarctic Continent, a lifeless area as vast as Canada and Mexico, were the whales, seals, fishes and birds along the ice-rimmed shores. Whales are the great commercial products which yearly cause many vessels to brave the desolate Antarctic waters (see Bulletin No. 2). Admiral Byrd's complete narrative of his Antarctic explorations and his daring flight to the South Pole, along with many illustrations taken by the expedition, appeared in the *National Geographic Magazine* for August, 1930, which may be consulted in your school library. Note in this photograph the blowhole on top of the whale's head. A whale does not spout water; it emits warm breath and, in chilly waters, this breath condenses and forms a cloud of steam.

HOW TEACHERS MAY OBTAIN THE BULLETINS

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The Literal "Floating Population" of China

ONE reason for China's internal troubles and occasional civil wars is the numerous kinds of civilization, peoples, tribes and languages in the vast republic, which lacks the roads and railroads to knit together its various regions in ties of common interest, trade and culture.

One type of population in China which has no counterpart in this country is represented in the floating cities. Children are born, grow up, marry and carry on their life aboard the sampans that congest some Chinese rivers.

"Walking" on China's Rivers

Most of the great river cities of southern and central China have such a "floating population," but the boat dwellers of Shanghai and Canton form large communities in themselves. A traveler of sufficient energy could laboriously progress for miles by jumping from the deck of one sampan to another.

Like the Dutch canal boat people, these river folk are a race unto themselves, apart from the common run of their fellow men. In many cases their mode of life has been handed down from father to son for generations. When China's teeming acres became overcrowded and expensive, and a growing commerce demanded river transportation in even larger volume, many ingenious Chinese combined business with economy and took to living aboard their tiny craft.

"Old Home Week" Would Mean a River Trip

Although business might call far and wide along the numerous rivers and canals, it was the large commercial centers at the mouths of mighty streams that offered the most lively carrying trade. Hence these cities early became headquarters for the water dwellers.

The riverman often made long voyages up-country, but he always came home to roost. Hence the dirty, evil-smelling stretches of river and backwash surrounding such centers as Canton and Shanghai, and even around Hongkong and Singapore, in the Malay States, became the native heath of an army of sampan-dwelling Chinese, who from childhood have known no other life.

Ducks Walk Gangplank to Floating Barnyard

The visible means of support of these communities is the carrying trade from wharf to wharf, and from bund to steamer or junk, across river and up canals.

Some sampans house petty merchants and peddlers who carry on a small trade in the necessaries of life from boat to boat within the water colony itself. Occasionally a craft is filled to overflowing with huge white ducks which fatten in the daytime on the tidal mud flats or harvested fields and at night walk a gangplank back to their floating barnyard. They proceed, one by one, in a quacking and pushing single file, each hurrying not to be the last duck aboard. The return home in the evenings is sometimes hastened, it is said, by giving the last duck a sharp crack with a switch. The awkward procession soon learns the trick and a comic tumult arises not to be the unfortunate tail of the procession.

Sampans Easy to Handle

Chinese sampans are marvelously easy to handle, being the product of generations of adaptation to environment. They dart like water spiders here and there

© Photograph by Maynard Owen Williams

THE FISH MARKET OF ASTRAKHAN ON THE VOLGA

After the day's catch the fishing boats line up at the water front to display their wares. The port is a noted shipping point for caviar (see Bulletin No. 4).

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Buying Soap Sets Men To Catching Whales

WHALING has emerged from man's most glamorous and adventurous form of hunting to the status of an exceedingly Big Business, with two big capital "B's," and a third "B"—for the whale business is Booming.

Certainly no other animal industry can show a 75 per cent factory increase in 1929, with the expectation of a further 30 per cent factory increase when the figures are compiled for 1930.

Widest "Pasture" Range

And this Big, Booming Business involves corralling the biggest animal the world has ever grown, roving over the vastest "pastures" the world affords—"pastures" that range from the Bering Sea to the Straits of Magellan, from Spitsbergen to the Bay of Whales, last airplane ports of call for the North and South Poles.

New Bedford was the world's whaling capital in the "Moby Dick" days of venturesome sea dogs who risked limb, life and wooden ships in hand-to-hand encounters with whales. In 1854 the American whaling industry reached its peak production of 12,000,000 gallons of blubber for the whale-oil lamps one can find to-day in antique shops.

Tiny Norwegian towns, whose names you may find it hard to pronounce, if, indeed, you have heard of them—Sandefjord, Tönsberg, Haugesund and Larvik—are the ports which sent 39 "floating factories," some 200 whaling boats, and nearly 10,000 men into the world's loneliest navigable seas to bring back the major share of an estimated production this year of nearly 70,000,000 gallons of whale oil.

Oil Used by Soap Makers

Each huge steel ship that steams out of the Skaggerak, with its convoy of tiny, bobbing tenders, to go whaling in the antipodal land of the midnight sun, will return with half a million dollars' worth of whale oil, or more, to be used for the soap that floats in American bath tubs or to help make a butter substitute for European tables.

These steel ships are the "floating factories" which anchor in sheltered coves and there extract the oil of the sea animals towed to them by the tenders, or catchers, which actually harpoon the whales. Most of the floating factories have flensing platforms alongside, where the whale is stripped, cut up and fed to the huge vats within.

How a Ship Swallows a Whale

A few new vessels are equipped with a forward hatch through which a whale's body is drawn by an electric windlass direct to a cutting-up floor in the vessel itself. The modern miracle of a ship swallowing a whale would afford Jonah a sardonic smile.

Anyone who thinks science has taken the adventure out of whaling should go aboard a catcher. These vessels, 110 to 120 feet long, with 500 to 750-horsepower engines, and a speed of 11 or 12 knots, afford an ultimate test of seasickness. They have no keel, so they can whirl, twist and double back with the whale. On the bow of each vessel is the invention which is to whaling what the cotton gin was to textile making—the harpoon gun.

How the Harpoon Shaft Operates

The harpoon gun is a muzzle-loading cannon on a swivel mounting which shoots a harpoon of tempered Swedish steel, about 6 feet long. Set in the harpoon's end are four 12-inch barbs which spring out at 45-degree angles when the harpoon is lodged in the body of the whale. And in the harpoon point is a bomb, charged with gunpowder, automatically fired three seconds after the shaft leaves the cannon.

Aiming a harpoon gun at a whale from a notoriously unstable craft, plunging from crest to trough of the Antarctic's rough seas, at the exact moment a whale rises to the surface for air, demands no mean marksmanship. To the harpoon shaft is attached a rope which passes over a roller on the bow of the ship and is attached to a powerful winch. The struggling whale is played as a fisherman would play a fish with the reel on his rod.

This rope serves also to bring the body to the surface while air is pumped into its body so that the balloon-like carcass, with a flag stuck into it as a marker, will float while the catcher pursues other prey.

When the huge bulk is towed alongside the floating factory the flensers swarm about it, slice through the blubber the length of the body, and a winch is attached to the end of each strip, peeling off the outer coating as one would peel an orange.

among the harbor traffic, clustering like barnacles around the great steamers anchored offshore. With lightning swiftness they flee in droves before an approaching storm, each knowing as if by instinct his own place in the quiet reaches of sheltered water. There is no mistake, no confusion; each bit falls unerringly into place like a gigantic picture puzzle. When the high wind arrives each craft is in place, with not a sampan left over, or a vacant square of water big enough to hold one.

Family Leads Normal Life Aboard Sampan

In spite of the shifting needs of commerce, family life aboard proceeds about its daily routine as usual, albeit in rather more cramped quarters. Clothes, vegetables, and babies are washed side by side in the stream and the cooking is done above a diminutive brazier-like stove. Growing children help with the handling of the boat and cargo and grandmothers in blue cotton ragged garments smoke long-stemmed pipes. At night all draw together and neighborly chatter from boat to boat sounds like a newly arrived flock of blackbirds. The river folk are poor but extremely cheerful, especially over the evening meal.

Lights from great liners shine across the harbor and music from an occasional gaily-decked pleasure barge floats from the mid-stream channel. In few other places lurks so strongly the spell of the East. To a newly arrived foreigner a ride ashore in a lantern-lighted sampan through the swiftly passing mysteries of river traffic is the door to romance.

Bulletin No. 1, November 3, 1930.

Photograph from A. B. Wilse © National Geographic Society

CUTTING A HUGE WHALE AT A SHORE STATION

The cutters, or "flensers," make incisions in the blubber of the whale, and then peel it off like the skin from an orange (see Bulletin No. 2). When the "blanket pieces," as the blubber strips are called, have been torn from the carcass, they are cut into blocks, dumped into enormous vats, and boiled, or "tried out," for oil.

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Portugal: A Country with Colonies 26 Times the Homeland Area

COLONIES of Portugal in Africa which petitioned the Portuguese Government for a more nearly independent status (known as autonomy) constitute the bulk of the present world possessions of the tiny country that once had one of the vastest empires the world has ever known.

Even now Portugal's world possessions loom large in contrast to the homeland. Portugal on the Continent, along with the Azores and Madeira Islands, which constitute an integral part of the Republic, covers an area slightly larger than the State of Maine. But Portugal's possessions, if merged, would be large enough to absorb 26 Portugals with many additional square miles to spare.

Angola Is Twice the Size of Texas

Angola, the largest African Portuguese possession, is nearly twice the size of Texas or twelve time larger than the homeland; Mozambique, in East Africa, could accommodate about ten Virginias with about 500 square miles to spare; Portuguese Guinea is slightly larger than New Hampshire and Connecticut combined; the Cape Verde Islands are larger than the State of Rhode Island; and St. Thomé and Principe Islands cover an area slightly more than five times that of the District of Columbia.

But Portugal's domain is not confined to Europe and Africa. Since the sixteenth century the small European Republic has held territory in Asia, although together these Asiatic possessions would not cover an area as large as that of New Hampshire. Timor, in the Malay Archipelago, the largest Portuguese Asiatic colony, constitutes about seven-eighths of the Republic's Asiatic holdings; Goa, India, is a bit larger than Rhode Island; Damao, India, is about twice the area of the District of Columbia; while Macao, at the mouth of the Canton River, China, adds only 4 square miles to Portugal's extensive foreign holdings. The small island of Diu, off the west coast of India, is another Asiatic holding.

Brazil Once Was Portuguese

Spacious Brazil was once under the Portuguese colors. Cabral, in search of a route to the East, sailed westward to avoid difficult ocean currents and winds. He touched Brazil and claimed it for the reigning Portuguese king. To-day Portugal's sovereignty has passed, but her language and customs remain.

The vast colonial domain of Portugal is populated with 14,777,477 people, including races from black to white and nearly all the varying skin hues between. In Africa are the blacks and browns; in India, browns, and in the Malay Archipelago and Macao, browns and yellows. Diminutive Macao has 152,000 yellow-skinned orientals and only 600 inhabitants of other races.

When one takes into account the voyages of intrepid Portuguese seamen of the fifteenth century, Portugal's possessions of to-day seem comparatively small in area. Henry of Portugal sensed the development of seamanship of his subjects along the long Portuguese littoral. He furnished maps and instruments for those who would search the seas for new lands and new trade. In 1433, Cape Bojador, down the West African coast opposite the Canary Islands, was doubled. A flourishing, profitable slave trade was developed which gave impetus to exploits of other mariners in search of new wealth.

The remnant flesh and bones are torn apart and fed into the boiling pans so that, to paraphrase a stockyards saying, every part of the whale is utilized except the blow. An efficient floating factory will slice and chop a whale in two hours.

Whale Oil Graded as Accurately as Wheat

Whale oil is graded as accurately as wheat. Two grades are made entirely from the blubber, which yields a pale, yellow oil with but a faint, fishy odor, used primarily in cosmetics and comestibles. The residue from which these grades is extracted is left in boiling pans, the flesh thrown in and under pressure, a grade of darker color and higher acid content is produced. The flesh and bones together yield "bone oil," and the lowest grade of all is the dark, odorous oil useful only for lubrication.

It was the harpoon gun that changed the geography of whaling, extending operations into the far southern seas, in pursuit of the mammoth Blue Whale, largest living animal; the swift Fin whale, "greyhound of the seas"; and the flat-headed, hard-fighting Humpback. These types were too speedy, too vicious or too lean to attract old-time hunters of the sperm whale and the Southern Right whale. Moreover, they sank when killed.

Tiny Islands Used by Whalers

When one of the world's most profitable industries invaded one of the earth's bleakest and most barren regions it salvaged tiny islands from desolate obscurity. South Georgia resembles a Matterhorn rising from the frozen seas. The South Shetlands afforded only markers for heroes' names—King George, Nelson, and Livingstone—until some realist named "Hell Gates." Deception Island preserves on modern maps, by its shape, the tradition of ancient charts which bore similar strange forms of coiled sea monsters.

All these islands lie in the Falkland Dependencies, Great Britain's major political foothold in Antarctica. British capital is invested in some companies, British licenses must be obtained by all operating from their island ports, but the major personnel of the whaling fleet is Norwegian.

In one year one Norwegian Company reported a gross profit of nearly $3,000,000. A whaling captain, as befits a captain of industry, may receive as much as $40,000 for a season of 9 months.

Whalers Must Keep Diary

This year every whaling captain has a new duty imposed upon him. He must keep a diary—a record of the number, kinds and location of his catches. This will contribute to a proposed scientific study of the habits of whales—including the food they eat, their migration routes from Antarctic to tropical waters, and other data about their habits. Both the British and the Norwegian governments have passed restrictive legislation lest the tremendous increases in whaling dangerously deplete whales, as injudicious sealing did the seals.

Science knows surprisingly little about the largest living creature. It can only guess, as yet, at the life span of the whale. It is known how they eat. They open their mammoth mouths, and as they plough through the seas thousands of tiny crustaceans and other minute sea organisms are swept in. These catch on the fringes of their baleen (whale bone) and are sucked down continuously, like soda through a straw, while the salt water filters out again through the corners of their mouths.

Plankton Is Oceanic "Hash"

The generic name of this food is plankton, which is no more precisely descriptive of the items therein than the human appellations of "hash" or "pot pourri."

An elephant or a hippopotamus is a child's idea of a sizable animal. It is hard for an adult who has not seen one to comprehend the enormous size of a whale. Dr. Roy Chapman Andrews made exact measurements of one specimen. It was 78 feet long and weighed 63 tons, the equivalent of a hundred steers, or three score limousines of fairly heavy type. Its bones alone about equal the weight of the 8-ton winter's coal supply for a small house. Its flesh tipped the scale at 40 tons, it yielded 8 tons of blubber, and the blood, viscera and baleen made up the other 7 tons.

The blubber of a whale is its overcoat, to keep the warm-blooded mammal warm in its cold oceanic grazing grounds. When man found a use for blubber and for furs these protections of Nature became a threat of extinction.

The size of a whale is one of Nature's most interesting examples of adaptation. Prehistoric land mammals grew too large to move about readily and obtain food, so they became extinct. A bird, like an airplane, cannot exceed a body size that its wings will support in air. But in the friendly, buoyant oceans the whale grew larger and larger. Even the hugest dinosaurs never outweighed a whale. Give him time, scientists believe, and as the ages roll on he may grow larger still!

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How Many Countries Equip Your Home?

HOW many items in an American home are American? While American industry supplies a majority of the equipment for the average American home, commerce reports show that many homes have products that originated in more countries than are represented in the League of Nations.

Ivory From African Elephants

From the roof which contains tin from Malay, to the cellar where pipes may be covered with Canadian asbestos, foreign articles are utilized by builders and housewives. It is not unusual to find the American home floor covered with Turkish or Persian rugs, the rooms furnished with mahogany from Nicaragua forests, the tables covered with English tapestry, the mantels adorned with bric-a-brac "Made in Japan" (or France). Candles and phonograph records contain Brazilian vegetable wax.

Piano keys which are made of ivory once graced the jaws of a Central African elephant, and perhaps the leather binding on the library books once clothed New Zealand animals, and the supply of glassware and earthenware was molded in Czechoslovakia.

A well-stocked pantry is the result of the labor of peoples of many climes. On the shelves there may be Brazilian coffee and nuts, Iraq dates, Turkish figs, Ceylon coconuts, Spanish olives and olive oil, canned Japanese crab meat, Cuban sugar, nutmegs from the Guianas, rice from Burma or Indo-China, Formosa tea, citron from Palestine, Norwegian sardines, English marmalades, Chinese ginger, Holland pickles, Spanish raisins, Ecuador cocoa, and cashew nuts from Madras, India.

South African Lobsters and Tibetan Musk

In the refrigerator may repose such articles as Sicilian lemons, Costa Rican pineapples, Honduran bananas, Italian cherries, Spanish grapes, fresh fish from Canada, canned caviar from Russia, South African lobsters and Argentine meat.

The bathroom also may have a foreign touch. In the soap rack, perhaps, is a bar containing palm oil from Nigeria and, in the tooth brush holder, brushes from Japan. The curtain around the shower may contain Malay or Brazilian rubber, but an international array of supplies is more evident in the medicine cabinet: Italian cream of tartar, Chilean iodine, Brazilian ipecac, German menthol, Javanese or Peruvian quinine, Venezuelan castor oil, and cod liver oil from Iceland or Labrador.

"Panama" Hats From Ecuador

Milady's dressing table is incomplete without sweet-scented perfumes, some of which, perhaps, were imported from France. Chemically analyzed, they might be found to contain extracts from rose petals grown in Bulgaria, musk from oxen of Tibet and civet, an extract from Ethiopian civet cats. The handles of the hair brush, mirror, and the comb, may be products of Argentine casein.

The family clothes racks display silk clothing the threads of which, perhaps, were spun by silkworms in Turkey or Japan. The skins in the karakul coat on the next rack once were worn by karakul lambs on the plains of Central Asia. The

Cape of Good Hope Rounded in 1488

Ten years before Columbus started westward the African Congo was discovered, and meanwhile the Azores and the Madeiras were becoming the profitable sugar bowl and wine barrel of the Monarchy. In 1488, Diaz, a Portuguese mariner, rounded the Cape of Good Hope, proving that the Indian Ocean was accessible by sea and that the East was within Portugal's reach.

Diaz' triumph started the ball of Portuguese conquest and settlement rolling at top speed. In 1500 Cabral accidentally touched Brazil. Forty-one years later a Cabral ship touched Madagascar, and a short time thereafter Portuguese mariners were sailing the waters of the Red Sea and the Persian Gulf. A trading station had been set up at Calicut in 1501, and about ten years later, Goa, still held by the Portuguese, came under Portuguese domination. The next years saw the Portuguese flag planted at Malacca.

Canton, China, trade was opened by Portuguese sailors in 1517, and Japan was accidentally discovered in 1542.

In little more than a half century North America was the only known continent (Australia had not yet been discovered) which the Portuguese mariners had not touched.

Bulletin No. 3, November 3, 1930.

© *Photograph National Geographic Society*

EARLY STAGES IN MAKING A SILK FROCK

The tiny silkworm contributes millions of dollars to the income of the people of Japan, and is that country's principal export to the United States, the principal buyer of its raw silk (see Bulletin No. 4, and "The Geography of Japan," in the *National Geographic Magazine*, July, 1921).

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Where the World's Greatest Crowd Assembles

WHEN and where does the world's greatest crowd assemble?

American world series baseball and college football games, the English Derby, and the Czechoslovakian Sokol, each draw from 75,000 to 100,000 people. But these cannot compete with certain religious gatherings in India. News dispatches tell of the assembling at Allahabad last spring of 4,500,000 people.

Where Two Sacred Rivers Meet

Normally, Allahabad is a city of 175,000 people. It lies in the V-shaped region between the Jumna and Ganges Rivers, at the meeting place of the two streams. It is this location that draws huge crowds to the town annually; and, at twelve-year intervals, tremendous hordes. Both the Jumna and the Ganges are sacred streams, and their meeting place is doubly sacred. The mystical Indian mind finds still a third reason for holiness: it is believed by the pilgrims that the Saraswati, a river which is swallowed up by the sands southwest of the Punjab, emerges at the junction point of the Jumna and Ganges.

Both the Ganges and the Jumna are coffee-colored streams, heavily laden with silt. At low water a large expanse of dusty sand is exposed below the Allahabad fort which stands on the bluff overlooking the confluence. It is on this beach that the millions of pilgrims assemble.

Holy Men Wear Coats of Ashes

The Indian police have their hands full during the great religious fair or Kumbh Mela. All vehicles are excluded from the river plain, and all efforts concentrated on maintaining order among the multitude of men, women and children that move about in the dust, slip on the wet clay near the stream banks, and attain merit by bathing in the murky waters.

A torrid sun beats down, and to screen its rays tiny shelters of rushes have been erected on the sands. Under these sit all manner of people wearing a minimum of clothing. Among them are holy men, their bodies smeared with gray coats of ashes. Groups of idols are set up that the faithful may contribute coins. Among the crowds go men carrying water-skins, sprinkling the water in an effort to lay the dust that millions of bare feet stir up.

The Kumbh Mela is a mecca for money-makers, and the principal thoroughfare is lined with mat-shed shops for the sale of sacrificial brassware, tiny brass idols, holy berries made into dark necklaces, and shining brass water bottles, zoned with mellow-tinted copper, in which holy water can be taken to remote parts of India by credulous people. Here and there one finds men with small furnaces full of heated pitch, sealing the water vessels so that not an atom or a germ of holiness can escape.

Mohammedan Conquerors Changed City's Name

Allahabad is old. In the enclosure of the fort is a pillar erected by Asoka, the great Buddhist King, during the third century B. C. It may have been moved to the spot later, however, so it is not conclusive evidence that a town existed on the site of Allahabad during Asoka's reign. The first town known to history on this site was Prayag, about which a Chinese traveler wrote in 700 A. D. The

Panama hat was made in Ecuador, while the felt hat contains hair that once scampered across Australian fields around rabbit carcasses. The hides in the shoes on the shoe rack perhaps originated in Chile or Argentina.

Bulletin No. 4, November 3, 1930.

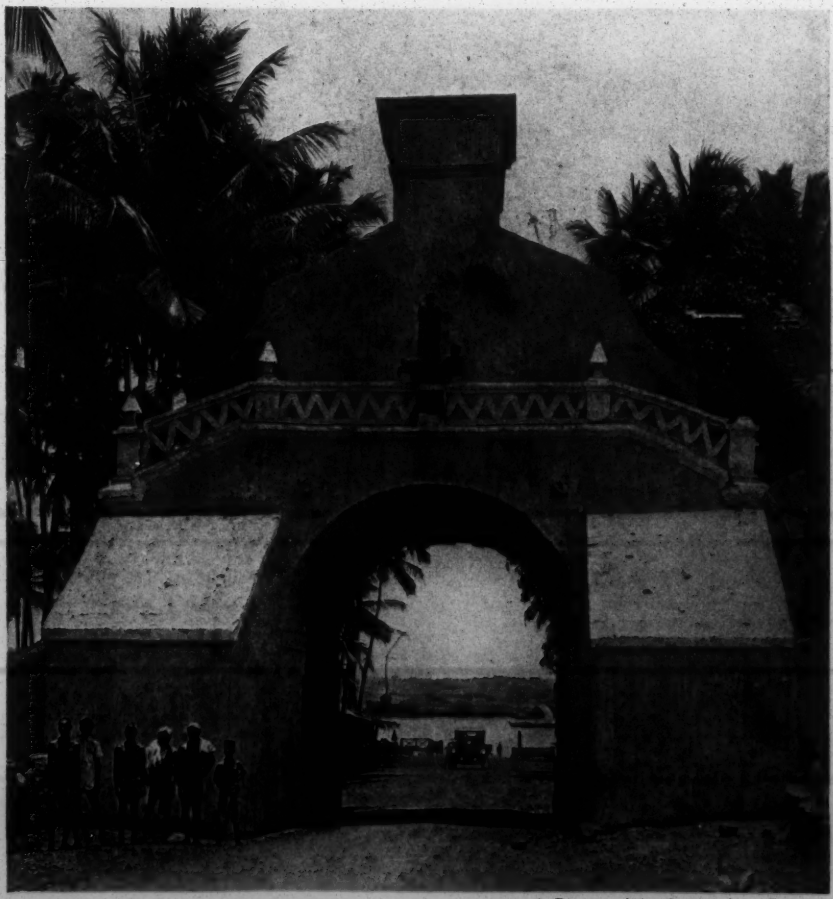
© *Photograph by Marin Johnson*

THE SOURCE OF THE KEYS OF SOME PIANOS

The African elephant grows larger than the Indian elephant and is distinguished from his Asian cousin by his big ears and huge tusks, the latter being the source of ivory. Here tuskers are shown shoulder-deep in the jungle. The tusks serve the elephant as weapons, and also for uprooting trees the mighty animal wants for forage (See Bulletin No. 4).

Hindus still call the town Prayag, "the place of sacrifice." It received the name by which it is now known to the world from its Mohammedan conquerors in 1575. The city is the capital of the United Provinces, second largest of the nine major divisions of British India.

Bulletin No. 5, November 3, 1930.



© Photograph by Cowling from Galloway

TINY GOA IS A REMNANT OF PORTUGAL'S DOMAIN IN INDIA

Time was when Portguese power ruled the sea from Africa around to China. The narrative of Portugal's amazing rise as a colonial power is told in the *National Geographic Magazine* for November, 1927, in an article entitled "The Pathfinder of the East: Setting Sail to Find 'Christians and Spices,' Vasco da Gama Met Amazing Adventures, Founded an Empire, and Changed the History of Western Europe." Even today Portugal's colonies aggregate 26 times the area of the homeland (see Bulletin No. 3).